

Features & Benefits

-  Easy to apply
-  High shear and peel strength
-  Long open time
-  High temperature resistance

Description

PERMABOND® ET5422 is a thixotropic two-part adhesive with excellent resistance to impact and vibration. The controlled flow properties as well as its ease of mixing and application, enables the adhesive to be used where gap filling is required. Permabond® ET5422 has been found to provide exceptional performance even at elevated temperatures. Permabond® ET5422 has been specifically formulated for use in applications requiring toughness and high strength.

Physical Properties of Uncured Adhesive

	ET5422A	ET5422B
Chemical composition	Epoxy Resin	Modified Polyamide
Appearance	Off White	Blue
Viscosity @ 25°C	2rpm: 1,000,000 – 1,500,000 (cP)	2rpm: 300,000-700,000 mPa.s (cP)
Specific gravity	1.14	1.00

Typical Curing Properties

Mix ratio	2:1 by volume 100:44 by weight
Maximum gap fill	5 mm 0.2 in
Usable / pot life @23°C 10g mixed	3-4 hours
Working strength	23°C: 8 hours 82°C: 30 minutes
Full cure	23°C: 24 hours 82°C: 1 hour

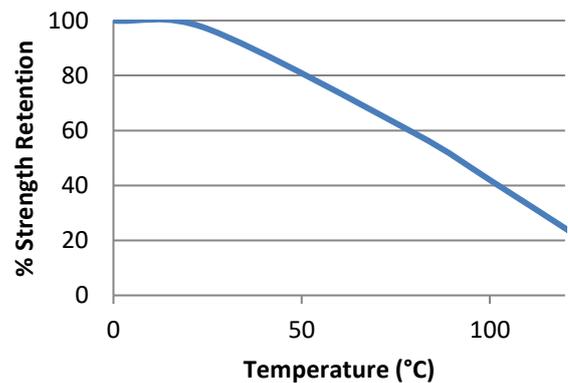
Typical Performance of Cured Adhesive

Shear strength* (ISO4587)	Aluminium: 30 N/mm ² (4350psi) Mild Steel: 22-26 N/mm ² (3190-3770psi) Stainless Steel: 16-20 N/mm ² (2320-2900psi) Hot Dip Galv: 18-22 N/mm ² (2610-3190psi) Carbon Fibre: 20-30 N/mm ² (2900-4350psi) Epoxy FRP: 18-25 N/mm ² (2610-3625psi) Polyester GRP: >10 N/mm ² (>1450psi) SF**
Peel strength (aluminium) (ISO4578)	Cured 1hr @ 60°C: 270 N/25mm (59 PIW) Cured 5 days @ 23°C: 320 N/25mm (70 PIW)

*Strength results will vary depending on the level of surface preparation and gap.

**SF Denotes substrate failure

Hot Strength



"Hot strength" shear strength tests performed on mild steel. Fully cured specimens conditioned to pull temperature for 30 minutes before testing at temperature.

ET5422 can withstand higher temperatures for brief periods (such as for paint baking and wave soldering processes) providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -40°C (-40°F) depending on the materials being bonded.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

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Additional Information

This product is not recommended for use in contact with strong oxidizing materials. Information regarding the safe handling of this material may be obtained from the safety data sheet.

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Use a suitable solvent (such as acetone or isopropanol) for the degreasing of surfaces. Some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove the oxide layer.

Storage & Handling

Storage Temperature	5 to 25°C (41 to 77°F)
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Directions for Use

- Dual cartridges:
 - Insert the cartridge into the application gun and guide the plunger into the cartridge.
 - Remove the cartridge cap and dispense material until both sides are flowing.
 - Attach the static mixer to the end of the cartridge and begin dispensing the material.
- Apply material to one of the substrates.
- Join the parts. Parts must be joined within 3-4 hours of mixing the two epoxy components.
- Large quantities and/or higher temperature will decrease the usable life or pot life.
- Apply pressure to the assembly by clamping until handling strength is obtained.
- Full cure will be obtained after 24 hours at 25°C (77°F). Heat can be used to accelerate the curing process.
- NB. Exercise caution when mixing large quantities due to exothermic reaction.**

Video Links

Surface preparation:

<https://youtu.be/8CMOMP7hXjU>



Two-part epoxy directions for use:

<https://youtu.be/GRX1RyknYqc>



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